Orofacial tumours and tumour-like lesions in Kano, Nigeria

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Abstract

Background: Orofacial tumours are known to exhibit geographic variations in prevalence and pattern due to cultural, social, occupational or climatic factors.
Method: A retrospective study of orofacial tumours presenting in a new maxillofacial centre in Nigeria between March 2001 and August 2002.
Result: A total of 342 patients attended the maxillofacial clinic within the 18-month period out of which 69(20.2%) had orofacial tumours. Only 55 case notes made up of 29(52.7%) males and 26(47.3%) females (M: F=1.1:1) were retrievable. The mean age was 37.1years(S.D: +/-18.5) with a range of 1 - 70 years .The peak age incidence was in the sixth decade for all tumours, third decade for benign and sixth decade for malignant tumours. The most prevalent tumours were squamous cell carcinoma (46% of malignant lesions) and ameloblastoma (31% of benign lesions) the mandible (38.2%) and the maxilla (23.6%) were the most commonly affected sites. Patients usually delayed before seeking treatment and the mean duration of tumours was 30 months (range=3 weeks - 40 years). More than a third (36.4%) of the patients could not afford cost of treatment and defaulted after diagnosis. Fifteen (27.3%) were referred for palliative radiotherapy due to advanced state of tumour. Out of the 14 (25.5%) treated, 4 had hemimandibulectomy, 1 subtotal mandibulectomy, 2 hemimandibulectomy and radiotherapy, 1 segmental resection and radiotherapy and 6 excisions. Follow-up records were scanty as patients tended to default shortly after treatment. The mean Follow-up period was 4.7 weeks (range= 1 - 22 weeks). Problems associated with management included late presentation resulting in advanced tumours, inability to pay for treatment due to poverty, difficulty in reconstruction and rehabilitation due to cost, size of tumour and non-availability of suitable materials for reconstruction.
Conclusion: Orofacial tumours and tumour-like conditions are commonly seen in our environment but usually present late.

Key words: Tumuors, orofacial

Introduction

A tumour is an abnormal mass of tissue whose growth exceeds and is uncoordinated with that of the surrounding tissues and continues to grow after the stimulation, which evoked it, has stopped. Orofacial tumours, which can be benign or malignant depending on their clinical, biologic and histological characteristics, are a group of tumours that can affect the various organs or tissues in the maxillofacial region i.e. the jaws, oral lining mucosa, gingiva, tongue, lips, oropharynx maxillary sinus, covering skin of the face and the salivary glands.

Tumours in this region, with the exception of squamous cell carcinoma, ameloblastoma and Burkitt's tumour are believed to be uncommon. However, in Africa, they constitute a major health problem because affected patients usually present late in the course of the disease with advanced tumour. This increases the morbidity and mortality of the disease.

Aminu Kano Teaching Hospital, Kano (A.K.T.H.) was established in 1994. Its dental and maxillofacial department took off late in the year 2000 and full services commenced in early 2001. Since the inception of this young department, no study has been conducted on orofacial tumours. The aim of this study therefore, is to provide a baseline data on the pattern of orofacial tumours presenting in this young referral centre, comparing this with previous studies from Nigeria.

Materials and Methods

Classification of tumours in the orofacial region is cumbersome and complex because of the varied types of tissues in this region and their different growth characteristics. As a result, many classifications have emerged and the simplest approach is to group them into odontogenic and non- odontogenic.

Odontogenic tumours are tumours arising from tooth forming tissues or their remnants. They are a diverse group of tumours and may originate from epithelial and or ecto-mesenchymal tissues. [1] Majority are benign with only a few malignant ones. They are mostly central (in the bone) with few peripheral (soft tissue) variants in some cases. Non-odontogenic tumours are tumours, which arise from other orofacial tissues other than dental lamina or its derivatives. Most of them are similar to tumours seen in other parts of the body except the salivary gland tumours.

A retrospective study of all patients with orofacial tumours and tumour-like lesions seen between March 2001 and August 2002 (18 months) at the dental / maxillofacial clinics was carried out. All retrievable case files were obtained and the necessary clinical data were extracted. These included the patient's age, sex, site of the tumour, and duration of symptoms, histological and / or clinical diagnosis treatment method and follow-up record. Data so collected were captured on Microsoft Excel spreadsheet, and then the results presented in tabular form and analyzed using mean and standard deviation (SD) for quantitative data and percentages for qualitative data.

Results

During the study period of 18 months 2,827 patients were registered at the dental and maxillofacial department out of which 342 attended maxillofacial surgery clinic. Out of these, 69(20.2%) were tumours and tumour-like lesions. However, only 55 case notes were retrievable and thus analysed.

The age range was from 1 to 70 years with a mean of 37.1 years (S.D= +/- 18.5) and a median of 38 years (Table 1). Tumour incidence was highest in the sixth decade (23.6%) followed by third (16.4%) and fourth (14.5%) decades.

Benign tumours peaked in the third decade (27.6%) and malignant tumours peaked in the sixth decade (30.8%).

Table 2: Histological types and sex distribution of orofacial tumours and tumour-like lesions

Histological type	M	F	Total
Benign			
Odontogenic			
Ameloblastoma	5	4	9
Fibromyoma	1	0	1
Cem. Fibroma	0	1	1
Odontome	0	1	1
Non-odontogenic			
Osteoma	1	0	1
Central giant cell granuloma	0	1	1
Fibroma	0	1	1
Lipoma	0	1	1
Peripheral giant cell granuloma	0	2	2
Pyogenic granuloma	1	1	2
Haemangioma	1	3	4
Neurofibroma	1	0	1
Pigmented naevus	1	0	1
Fibrous dysplasia	1	0	1
Salivary gland			
Pleomorphic adenoma	2	0	2
Malignant			
Ameloblastic carcinoma	1	0	1
Squamous cell carcinoma	8	4	12
Adenosquamous carcinoma	1	0	1
Malignant melanoma	1	0	1
Basal cell carcinoma	0	1	1
Mesenchymal			
Osteosarcoma	1	2	3
Burkitt's tumour	1	1	2
Dermatofibrosarcoma	1	0	1
Salivary gland			
Mucoepidermoid carcinoma	1	2	3
Adenocystic carcinoma	1	1	2
Total (%)	29 (52.7)	26 (47.3)	55 (100)

The histological types and sex distribution of the tumours are as shown in table 2. Twenty-six (47.3%) were malignant while 29 (52, 7%) were benign. The most common tumour was squamous cell carcinoma (21.8%) followed by ameloblastoma (16.4%) and salivary gland tumours (10.9%). The male to female ratio was 1.1:1.

The mandible (38.2%), maxilla (23.6%) and cheek/facial soft tissue (12.7%) being the most frequently involved sites. Squamous cell carcinoma occurred most frequently in the maxilla/palate (42%) while all the ameloblastoma occurred in the mandible. The salivary gland tumours occurred mostly in the parotid glands.

Common presenting symptoms were ulcerations, swellings, mobility or loss of teeth and the duration of symptoms ranged from 3 weeks to 40 years (mean: 30.6 months). The duration of symptoms in females (Range= 3 weeks to 15 years and average= 24 months) was shorter than in males (6 weeks to 40 years and mean 36.9 months).

Table 3 shows the treatment methods employed in the management of the patients. About a third (36.4%) of the patients absconded without returning for treatment after diagnosis. In addition most of the patients (30.9%) had to be referred for palliative management due to advanced state of the tumours when they presented for treatment.

Various surgical procedures used were hemi-mandibulectomy (4 patients) subtotal mandibulectomy (1 patient) segmental resection (3 patients) excisions (6 patients surgical treatment was combined with post-operative radiotherapy in 3 patients.

Follow-up records were scanty with follow-up periods ranging from one to twenty-two weeks (mean 4.7 weeks). Therefore no meaningful treatment results/outcome could be assessed.

Table 1: Age distribution of orofacial tumours

Age (Years)	M	F	Total (%)
0 – 9	1	3	4 (7.3)
10 – 19	3	4	7 (12.7)
20 – 29	6	3	9 (16.4)
30 – 39	4	4	8 (14.5)
40 – 49	5	2	7 (12.7)
50 – 59	8	5	13 (23.6)
60 – 69	1	4	5 (9:1)
≥ 70	1	1	2 (3.6
Total	29	26	55'(100)

Mean age: 37.13(S.D= + / - 18.5) years
Mean age for males: 38.24(S.D= + / - 16.6) years
Mean age for female: 35.88(S.D= + / - 20.7) years

Table 3: Management of orofacial tumours

Treatment	No. (%)
Surgical treatment	14 (25.5)
Referral	17 (30.9)
Conservative management	4 (7.3)
Left hospital without treatment	20 (36.4)
Total	55 (100)

Discussion

The relative frequency of oral tumours is known to exhibit geographic variations. For example, oral cancers constitute about 40% of all cancers in Asians, [2] 2% to 4% in the developed world (Britain and the United States). [3, 4] It is believed to be very low in Africans. [5, 6] Recent studies from Ibadan[7] and Zaria [8] show that oral tumours constitute 2.9% and 3.9% of all tumours respectively in our environment. This geographic variation is largely due to differences in cultural and social practices or habits. For instance, the habit of tobacco chewing, bidi smoking and snuff dipping has been implicated in the high rate of oral cancers in south-east Asia. [2]

This study shows that about one in every five patients attending the maxillofacial clinic of our hospital within the study period had a tumour or tumour-like lesion. Malignant tumours (47.3%) were slightly less common than benign tumours (52.7%). Rafindadi and Ayuba[8] in a published report from Zaria, Nigeria documented a similar proportion between benign (57.3%) and malignant (42.7%) oral tumours.

The findings that squamous cell carcinoma was the most common malignant tumour in adults is in agreement with previous studies from Ibadan. [7, 9] Kaduna, [10] and Lagos, [11] Nigeria. Johnson, [12] in a review paper on global epidemiology of orofacial neoplasms, affirmed that squamous cell carcinoma is the most common oral malignant tumour accounting for over

80% of orofacial malignancies in the developed world. In our study it accounted for 46.2% and this is similar to 43% reported in a previous study from Ibadan[7].One can therefore conclude that although, squamous cell carcinoma is the most common malignant orofacial tumour in Nigeria, it is less commonly seen in this country compared to Western countries.

Ameloblastoma has also been extensively reported as the most common odontogenic tumour in our environment. [13-17] It is not only the most common odontogenic tumour but also one of the most common central jaw tumours in adults, Burkitt's tumour being the most common tumour in children.[15]

The peak incidence of malignant tumours occurring in the sixth decade is similar to previous findings from Nigeria. It has been previously noted that the average age of occurrence of orofacial malignancies in our environment is lower than in the European countries. [9-11] We agree that this could be partly due to the lower average life expectancy in Nigeria as earlier suggested by Daramola et. Al. [9] We speculate that this lower life expectancy could be part of the reason why oral cancer is less common in our environment than the western world and as life expectancy improves, the peak age may become the same with those reported from the western world.

The fact that patients are late in seeking orthodox treatment, presenting with advanced tumours has been well documented in previous studies from Nigeria. [7 - 11] Oji, [18] in a recent study of advanced orofacial tumours in Enugu, Nigeria, reported that 93.7% of the patients studied belonged to the lower socio-economic groups. He, therefore, suggested that ignorance and poverty were the two major factors responsible for their late presentation. This is a major health problem affecting management of tumours in our environment. Unfortunately government's National Health Insurance Scheme (NHIS) as presently planned will not take care of this problem because it is restricted to the working class. Most of the patients with orofacial tumours are not in any employment and therefore the government needs to device a social/health policy that will cater for their treatment and rehabilitation. We also recommend the establishment of a National Awareness programme which will incorporate screening programme for orofacial cancers to solve the seemingly intractable problem of late presentation in our environment as early presentation improves the chances of cure.

In conclusion, ameloblastoma and squamous cell carcinoma are the most common benign and malignant orofacial tumours respectively and patients usually delay before seeking orthodox treatment largely due to poverty and ignorance. Since early diagnosis and treatment confers better prognosis leading to greater chance of cure, less extensive surgery, reduced potential disability and reduced cost of treatment, governmental and non-governmental health policy makers should organize a health/social policy that will make provision for the treatment and rehabilitation of patients with tumours who cannot afford the cost of treatment. In addition, oral health education and screening programmes should be carefully planned and faithfully implemented.

Acknowledgement

The authors wish to appreciate the assistance of Mallam Ibrahim and the staff of medical illustration unit of faculty of medicine, Bayero University Kano for the illustrations, the medical records staff and the resident doctors in the dental and maxillofacial department of Aminu Kano Teaching Hospital, Kano for their assistance in retrieving the Case files. We are also grateful for the assistance of our colleagues in the pathology departments of Aminu Kano Teaching Hospital, Kano and Ahmadu Bello Teaching Hospital,

Zaria for the histological diagnoses.

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